Namma Yatri - Trip Data Analysis and Strategic Recommendations

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Executive Summary

Namma Yatri is reshaping urban transport through a tech-first, driver-centric model. However, barriers such as low digital literacy among non-millennial drivers and operational inefficiencies need addressing. This report explores trip data, identifies inefficiencies, and proposes strategies to optimize operations, maximize revenue, and enhance customer satisfaction.

Objective

- Identify peak demand patterns and trends.
- Uncover factors influencing cancellations and driver performance.
- Optimize payment methods and trip durations.
- Improve resource allocation and marketing strategies.

Methodology

- **Data Understanding**: Extracted and merged five datasets: Trips, Trip Details, Payment Methods, Assembly Locations, and Duration.
- **Data Cleaning**: Addressed missing values, mapped categorical variables, and removed inconsistencies.
- **EDA (Exploratory Data Analysis)**: Analyzed trip volumes, fare trends, cancellations, payment method preferences, and driver performance.
- **Visualization**: Developed an interactive Power BI Dashboard to track KPIs, trends, and segment performance.

Visualizations (Power BI Dashboard Highlights)

- **Trip Demand Trends**: Trips peaked between 9 AM - 11 AM and 6 PM - 8 PM.
- **Cancellation Analysis**: High cancellation rates observed in Mahadevapura and BTM Layout.
- **Payment Methods**: UPI emerged as the most popular method, followed by cash.
- **Driver Performance**: Top drivers completed 20% more trips and had 15% higher earnings.
- **Trip Duration and Distance**: Short-distance rides (<5 km) had a higher cancellation likelihood.

Key Findings & Analysis

1. **Peak Demand**:
    - Consistent morning and evening peak hours.
    - Demand spikes on weekends and festive days.
2. **Cancellations**:
    - Older drivers and longer waiting times correlated with higher customer cancellations.
    - Driver-side cancellations linked to trip distance and fare expectations.
3. **Driver Performance**:
    - Drivers engaged in app-based training programs showed 15-20% higher engagement.
    - Drivers using local language interfaces showed a 10% higher retention rate.
4. **Payment Methods**:
    - Digital payments (UPI, cards) growing but cash still accounts for 35% of transactions.
    - Incentives for digital payment usage showed potential for faster adoption.
5. **Trip Durations**:
    - Most trips are short-haul (2-5 km).
    - Trips longer than 10 km had fewer cancellations but longer search and match times.

Actionable Insights

- Promote **digital literacy** among non-millennial drivers via in-app multilingual tutorials.
- Introduce **gamified incentives** to encourage feature adoption (e.g., bonuses for UPI trips).
- Optimize **driver allocation** based on predictive demand models.
- Launch **area-specific marketing** in low-demand zones.
- Encourage **advance booking** during peak hours to balance demand-supply.

Strategic Recommendations

1. **Scale Digital Training**: Roll out city-wide training programs with video-first content.
2. **Multilingual Support**: Offer apps and support services in multiple local languages.
3. **Driver Incentives**: Link incentives directly to app usage metrics (e.g., digital payments).
4. **Monitoring and Feedback**: Use real-time dashboards to track driver performance and adoption.

5. **Customer Engagement**: Offer loyalty rewards for frequent riders and digital payers.

Conclusion

Successful digital integration will boost driver earnings, enhance service quality, and improve overall customer satisfaction. Continuous monitoring, training, and incentives are key to building a resilient and competitive urban mobility platform. Flexibility and innovation will keep Namma Yatri ahead in the evolving transport landscape.